

# Mechanical Dissertation

UPON THE

## UES VENEREA.

Proving not only the Possibility, but  
Certainty of Curing that Disease,  
without the hazard of *Salivation*.

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By J. S. SURGEON.

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*Veniet tempus, quo ista quæ nunc latent, in lucem  
res extrahat, & longioris ævi diligentia. Sen.*

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T O

Claudius Amyand, *Esq*;

*Serjeant Surgeon* to His M A J E S T Y.

 HE Benefit I formerly received from your *Anatomical Lectures*, and the Useful Instructions in the *ART* I profess, added to the Friendship with which you have been since pleased to favour me, encouraged the liberty I take in Addressing this to you. My Intent is only to offer a Method in the Cure of this Disease, equally Effectual, and less dangerous than what is commonly Practised; and I hope such a Design alone will not only justify the Undertaking to yourself, but to every industrious Improver of this *ART*. I have no view of recommending to the World any particular Remedy of my own, under the Pompous Title of *Specifick*; but to demonstrate the Certainty of Curing this Distemper, from a just Consideration of *Animal Oeconomy*, and the absolute Properties of such Medicines, as by long Experience have been found Successful. The Manner of Treating this Subject, may not



be so acceptable to those who have not been  
Conversant in Studies of that Nature; but the  
Satisfaction I received my self, from Authors  
who have endeavoured to establish Medicine  
upon the solid Foundation of Mechanick Prin-  
ciples, and the favourable Reception it has uni-  
versally met with, induced me to handle this  
in the same Manner, as the only means of re-  
ducing it to some Reason and Certainty. I am  
satisfied I could not offer this to one whose  
Sagacity and Industry in improving the *ART*  
he professeth, is more conspicuous than your own;  
and whose good Will to his Fellow-Creatures, is  
continually exciting some useful Discovery for  
the Relief of those Accidents human Nature is  
exposed too; and should this small Treatise  
afford the least hint to a future Improvement,  
I shall think my self sufficiently recompenced for  
the attempt. I am afraid to have detained  
you too long, and therefore conclude, least  
—— *in publica commoda peccem,*  
*Si longo Sermone morer tua tempora* ——

And am,

*S I R,*

*Your most obliged humble Servant,*

*J. S.*



A Mechan-



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# Mechanical Dissertation

Upon the CURE of the

## *LUES VENEREA.*



MOST Authors who have delivered any thing to us upon this Subject, have mis-spent a great part of their Time, in attempting to discover the Rise and Progress of the *Distemper*, through the several *Nations* infected with it : Such Authors, may indeed, be curious to those who would compile an exact *Chronology* of Diseases ; but to one, whose Profession and Study, ought to lead

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him



him to investigate the Nature, Cause and Cure, for the Benefit of his Fellow - Creatures, this Speculation is useless and unnecessary. How unhappily, even those who have laboured in the Cure of it, have succeeded, is manifest from the obscure Accounts transmitted to us, and the Ravage the *Distemper* has made in all Countries and Ages, down to our own Time : and this only for want of a due Attention to *Animal Secretion*, and those *absolute Laws*, by which all Bodies act with respect to one another. This Censure may perhaps displease those, who have inconsiderately imbibed the absurd Doctrine of *Acids*, *Alcalies*, or *Fermentations* ; but, let them think as they please, I am confident the greatest Improvements, and most useful Discoveries in *Animal Oeconomy*, have been owing to the Industry of those, in the latter and present Age, who have

have endeavour'd to establish Medicine on the solid Basis of *Geometrical Principles*; and how far they have succeeded in this, any one may be convinced, who will be at the Trouble of consulting *Bellini, Pitcairn, Cheyne, Keil, Mead, Friend*, and others.

The Obstinacy of this Distemper so greatly varies, according to the Climates, that in the *Southern* Parts of the World it will yield to the common Decoctions of *Sarsa, Guaiacum*, and others of that Class, which promote a gentle *Perspiration*; but in the more *Northern* Parts, as with us, the different Density of the Blood, obliges us to have recourse to more ponderous and active Medicines, among which, *Mercury* is in most Esteem. And the first Use of this in the *Lues Venerea*, was occasioned by the Success manifested in the Cure of *Leprosies*, which  
Distemper,



Distemper, according to the most authentick Accounts we can gather, had such an Affinity, and bore so near a Resemblance to the other, that 'tis contested at this Time, whether it was the same or not. Although *Mercury* has been esteemed a *Specifick* in this Infection, yet the Ancients made use of it, without understanding its Properties, or manner of Operation in human Bodies; attributing that Power, to some occult and imaginary Qualities, which has since, by the Assistance of *Geometrical* Reasonings, been demonstrated to consist only in its encreasing the *Momentum* of the Blood. From the same Principles, a due regard being had to Animal Secretion, it will not be difficult, to demonstrate the Certainty of curing this Distemper in our own Country, by the Assistance of such Medicines, as abrade and comminute the tenacious



ious and *viscid* Cohesions of the *Animal* Juices, without the tedious Confinement and Hazard of *Salivation*.

But to proceed methodically ; I shall *First* consider, what Alteration the Blood undergoes by being injected, and endeavour to prove, that the *Symptoms* which generally appear, must be the Consequence of such Alteration.

*Secondly*, I shall treat of the requisite *Properties* of those Medicines which conduce to the Cure, and particularly of the Use of *Mercury*, and other ponderous Medicines, in subduing this Disease.

*Thirdly*, Of the Benefit of *Bathing* in the Cure of this Distemper.

C H A P.



## C H A P. I.

*Of the Alteration the Blood undergoes by being infected, and that the Symptoms, which generally appear, must be the Consequence of such Alteration.*

**F**Ormer Writers, who undertook to derive the Origin of most Diseases, from an offending *Acid*, or *Alkali*, have attempted, each according to the Sect they belonged to reduce the Cause of this Disease to their own *Hypothesis* ; but how absurd and ridiculous those Doctrines have appeared upon Examination the Honourable Mr. Boyle has proved from the *Analysis* of the Blood, and more lately the learned Dr. Pitcairns in his Dissertation concerning the Operation of *Acids* and *Alcalies* in  
th



the Cure of Diseases. Since therefore we can attain to no Certainty from these *Hypotheses*, either as to the Alteration in the Mass of Blood, or Method of Cure, I believe it will readily be granted, without considering the essential Properties of the infecting Matter, that whatsoever is capable of rendering the Serum of the Blood more *viscid*, may easily occasion all the *Symptoms* which occur in this Distemper.

That it is the Property of this Matter to inspissate the Juices, and render the Blood more *viscid*, appears not only from the Blood of those thoroughly infected, but even, from the first Impression made, upon the Parts immediately concerned in *Coition*. For what is allowed to be the common Cause of all Inflammations, Induration, and Ulcers, viz. the Motion of the Blood being impeded, or retarded in its Circulation

culation through the smaller Vessels, may be properly esteemed to occasion a *Gonorrhœa*, *Chancres* on the *Preputium* or *Glans*, the first Marks of Infection ; and this will always be in a Degree answering the Quantity, or various Modification and Activity of the Matter received. Thus in the Stinging of Insects, the Liquor immitted, by the *Aculeum* or *Proboscis* of the Insect, shall produce an Effect, more or less sudden, according to its Quantity or Degree of *Volatility* ; as in the Stinging of *Bees*, *Wasps*, *Flies*, &c. For the same reason, the Bites of Animals, as that of a *Viper* and *mad Dog*, differ in the Time of their Effects, although both fatal in the End, if not seasonably prevented. By this way of Reasoning, we are able to account for the various Degrees of Infection, and Time of Eruption in different Persons, without denying the



particular Disposition of some Bodies to receive it sooner than others.

It may be objected, that if the Cause of a *Gonorrhæa*, proceeds from an increased *Viscosity* of the Liquor secreted from the Glands of the *Lacunæ* ; how comes it to pass that it flows in a larger quantity in a *viscid* than a fluid state ? In answer to this, let those Glands be considered as *conglomerate*, vested with Coats of Contractile and Muscular Fibres, which enable them, in a natural state, to secrete the Fluid contained ; it's manifest, the change of the Liquor to be secreted, from a Liquid to a more *viscid* Matter, will so dilate the *excretory Ducts* of those Glands, as to weaken their Tone, and deprive their Coats of their Elasticity ; for which reason, the Matter will continually flow, and in a quantity proportionate to the increase of the Diameters of their

C                      Orifices.

Orifices. Hence, by way of Corollary, we may discover, how the frequent repetition of *Mercurial* Doses, renders the Cure of this Disease more difficult; and therefore, is always improperly used, unless designed to increase the quantity of Matter.

That the Cause of *Chancres*, and other external marks of Injury, upon the parts of Generation, are owing to the same Principle, is evident from the frequent Itchings and Induration, which at length degenerate into an Ulcer.

Having hitherto proved, that the *viscidty* of the Juices in the smaller Vessels, occasioned by the infecting Matter, gives rise to this Disease; it will necessarily follow, that where-soever this contaminating quality is diffused, it will produce Effects answerable to its Nature; and therefore, when it happens to be mix'd  
with



with the Mass of Blood, will more universally manifest itself by *Cutaneous Eruptions*, *Caries* of the Bones, *Phagædenick* Ulcers, &c. The reason whereof is plain, to any one who will but consider, how much that increase of the Blood's *Viscosity*, must obviate the established Laws of *Animal Secretion*, necessary to preserve the Body in a state of Health. For by those Laws, the quantity of Matter secreted from any Gland, being in a *Ratio*, compounded of the quantity of Blood, its Velocity at the Orifices of the Excretory Ducts, the wideness of the Orifices directly, and the *Viscosity* of the Blood reciprocally; consequently, the Quantity and Velocity of the Blood, and the wideness of the Orifices being known, the quantity separated, will be as the *Viscosity* of the Blood; that is, the greater the *Viscosity* the

less will be seperated, and the less the *Viscidty* the more will be sepe-  
rated.

From what has been demonstra-  
ted, it is not at all surprising, that  
the milliary Glands of the *Cutis*  
should be so obstructed, as not freely  
to secern the Matter offered to the  
mouths of their excretory Ducts;  
but leave it, as they do, conden-  
sed and incrustated upon the Surface  
of the *Cuticula*, occasioning Blotches,  
Scabs, and other Cutaneous Erup-  
tions. Again, the *Viscidty* of the  
Matter to be secerned from the Cu-  
ticular Glands, is so vast an Impe-  
diment to insensible Perspiration, and  
this Suppression of the perspirable  
Matter, so alters the Texture of the  
Blood, as to render it unfit for  
Muscular Motion; whence Noctur-  
nal Pains, a Lassitude and Decrease  
of Strength in the Limbs will neces-  
sarily follow.

How



How the Bones happen to be so affected by this Distemper as to become Carious, and that from the same Cause, will be best explained, by first considering their Texture and Manner of Nutrition. The Bones then are composed of solid Fibres, running longitudinally, which are fastened to one another by other transverse Fibres, and thus constitute several *Laminæ*, clap'd one upon the other, as appears in the *Cranium* of a *Fœtus*, and the Bones of Fishes; and are nourished, after the same manner as other Parts of the Body, by Arteries which pass between those *Laminæ*, and as they run along send forth branches in the Interstices of the Fibres of the Bone, having proper Veins, to return into the Mass of Blood, what is superfluous for Nutrition. The Learned Dr. *James Keil* in his Anatomy, says indeed, ' That when the Bones are grown to  
' their

‘ their utmost Extent, Hardness and  
 ‘ Solidity, their Blood-Vessels being  
 ‘ so compressed on all sides by the  
 ‘ bony Channels, bring no more  
 ‘ Blood, than what is sufficient to  
 ‘ supply the Places of their decay-  
 ‘ ing Particles. ’

But this seems to me, contrary to  
 the Circulation of the Blood, the  
 known Laws of Nutrition, and those  
 Observations arising from the Prac-  
 tice of Surgery in the Cure of dist-  
 empered Bones; and if this was the  
 Case, I cannot conceive how the  
 Bones should become Carious, and  
 then Exfoliate. For when the Na-  
 ture of a *Caries* comes to be consi-  
 dered, it will appear to be, a De-  
 struction of the Texture of the Bone,  
 occasioned by the increased *Viscosity*  
 of the Fluid contained in its Blood-  
 Vessels, which sometimes only di-  
 lates, but in a compleat *Caries* en-  
 tirely breaks the Cohæsion of its  
 Fibres.



Fibres. Thus we often see Venereal Nodes disappear by the use of *Mercurials* ; and I have known some Scrophulous Tumours of the Bones in the Articulations, and others after the Small-Pox, at length subside, where the Fibres of the Bone have retained Elasticity sufficient to restore themselves to their former State. But where, as was before observed, the *Caries* hath destroyed and disunitied the Texture of the Bones, Empoisthumations in the Flesh are generally Concomitant. Therefore by comparing the Tumours of the Bones, with those of the fleshy Parts, the same Reason serves to account for the Dissipation of both, *viz.* free Passage given to the Circulation of the Fluids, which was obstructed before ; whence we may conclude, that more Blood is brought to the Bones of Adults, than is sufficient to supply the Places of the decay-  
ing

ing Particles; and that the Blood circulates through them, as well as other Parts of Human Body, being provided with proper Veins, to return the superfluous Blood into the circulating Mass.

From what has been said, concerning the Texture and Manner of Nutrition of the Bones, and the Nature of a *Caries*, it will necessarily follow, that the increased *Visciduity* of the Blood in the *Lues Venerea*, is capable of making that Ravage upon the most solid Parts of the Human Frame; and this it does sooner or later, according to the different Degree of Solidity in the Bone affected. The Bones of the Nose are commonly greatest Sufferers by this Enemy, which proceeds from an Infarction of the Glands separating the *Sinovia*; these Glands being lodged within the Interstices of those Bones, must, when ob-

structed



structed, swell and dilate, 'till they break and destroy the slender Compages of their Spongy Parts ; whereas in those more Solid, as the *Cranium* and *Tibia*, the Mischief is not so soon irreparable, their gradual Increase allowing time for Relief, by the Assistance of proper Methods.

One Observation may be farther made, concerning *Nodes* upon the *Tibia*, which will help to illustrate our present Design ; and that is, That all *Nodes* upon this Bone begin in the middle and most solid Part of it ; which could never happen, if the *Caries* proceeded from any other Cause, than the *Viscidities* of the Blood ; I mean from any *Acid* or *Fermenting* Quality, formerly attributed to the Venereal Matter ; since it is plain, that whensoever such Qualities predominate, the most lax and tender Parts will first

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be destroyed. We may farther observe, that all Tumours and Inflammations universally occur, where the Vessels are smallest ; and therefore the *Viscosity* of the Circulating Fluid in the Bone is the Cause of the *Caries*, the Vessels being smaller and more compressed, in the more solid part of the Bone, than at the Extremities, and consequently more liable to be obstructed.

Thus rejecting the obscure and imaginary *Hypotheses* and *Theories* of Philosophers, or without enquiring into the essential Properties of the infecting Matter, I have endeavoured, from one single Principle laid down, to account for the various Symptoms attending the Rise and Progress of this Distemper ; and as the Cause of all others are deducible from the same Way of Reasoning, I shall content myself with what has been already explained,



plained, and proceed to treat of the *Requisites* in the Cure.



## C H A P. II.

*Of the requisite Properties of those Medicines, which conduce to the Cure, and particularly of the Use of Mercury, and other ponderous Medicines in subduing this Disease.*

**I**T has been demonstrated in the preceding Chapter, that all the Symptoms in this Distemper, from the very first Impression made, are occasioned by its contaminating quality encreasing the *Viscidities* of the circulating Fluids, and that such Alteration is sufficient, without having recourse to any *acid, alcalious* or *fermenting* Disposition in the Animal Juices.

The Success of the Methods taken by Ancient and Modern Physicians, when rightly considered, appears to be founded upon the same Principle, and the Advantage of the latter, has been chiefly owing, to some later Discoveries in the Circulation, and the Art of knowing how to apply, the *Geometrical* Knowledge they are Masters of, to *Animal Oeconomy*. To pursue the same Method, it will not be inconsistent, before I speak of the Properties of the Medicines necessary in the Cure, to take a short view of the Nature of human Body, with respect to those Secretions, necessary to maintain it in a state of Health. The Blood then, in a Natural or Healthy State, ought to be of that Consistence which will answer the supply of the decayed Parts, and of a Fluidity, proper for Secretion, when offered to the Mouths of the excretory



tory Ducts, of its various Emunctories. For should the Diameters of its Particles to be Secerned, exceed the Diameters of the Excretory Ducts, it would be impossible they should pass, or should the *Viscid Crasis* of the Blood dispose it to run into Cohesions, the Secretion would hereby be retarded in the Excretory Channels. Thus the increased *Visciduity* of the Blood, in the Distemper I am Treating of, is a vast Impediment to the proper Secretions in general, and particularly to that by *insensible Perspiration*, the Minuteness of the Secreting Vessels, rendring them more liable to be obstructed. But the mischievous Consequences arising from this Evacuation being suppressed, beyond that of any other, plainly appears from the Computation of *Sanctorius*, in his 59th *Aphorism*, Section the 1<sup>st</sup>, where he has fixed

fixed the *Ratio* of Evacuations, as follows.

By the	{	Anus 4
		Bladder 16
		Skin 40 and more.

It appears from the *Ratio* of Excretions thus expounded, that greater Mischief may happen, from the Interruption of *Cutaneous Excretion* alone, than of the other two taken together ; and therefore the Malignity of this, as well as many other Diseases, may be chiefly owing to this Cause. We may likewise from hence conclude, that the most probable Method of Curing this Disease by Evacuation, will be according to the *Ratio* here set forth ; and consequently, the Probability of succeeding by *Diureticks* rather than *Catharticks* will be as four to one, and that by *Perspiration*, compared with the same, as ten to one, and above,



above. This Evacuation, by the *Cutis*, being farther compared with that from the Salival Ducts, occasioned by *Mercury* in the Course of a Salivation, which rarely exceeds Six-Pounds in twenty-four Hours, will, according to *Sanctorius*, *Aphorism* 58, Section 1<sup>st</sup>, be nearly equal; for he allows about three Pounds to be perspired in the space of one Nights Sleep, which we may reasonably suppose to be eight Hours, the third Part of the Day and Night; admitting then, that we perspire only half the Quantity in the same Time, being Awake, it will produce three Pounds more in the other sixteen Hours, which added to that perspired in Sleep, will make about six Pounds, the Quantity Evacuate by *Salivation* in the same Time. As the Evacuations may be therefore equal, the Probability of curing this Disease by *insensible*

*sensible Perspiration* or Salivation is the same. And it cannot be doubted, considering the Natural Disproportion of these Evacuations, but that *Cutaneous* Excretion may be so far augmented, as vastly to exceed the other ; which will farther appear from the Operation of such Medicines, as chiefly assist in subduing this Disease.

Its evident from what has been said, that all Attenuants of the Blood, let the Manner of their Operation proceed either from the Volatility or Activity of their Parts, as in *Sudorificks* and *Catharticks*, or their particular Ponderosity, as in Metals, are capable of producing some desirable Effects in the Cure of this Disease. Many Instances may be collected, from the Writings of Physicians, of unquestionable Authority, to prove the Success of *Sudorificks* and *Catharticks*, and  
even



even of many other Remedies, which promote no sensible Evacuation. *Fernelius* tells us in his Treatise upon Venereal Diseases, that he has cured several without *Mercury*, and advises us to abandon the Use of it as pernicious; but how justly, will hereafter be demonstrated, when I come to speak of the Operation of that Mineral in Particular. *Riverius* likewise in his Observations, gives several Instances of the Success of that Practice, and particularly that of a Person who perfectly recovered of a Confirm'd Pox, by the frequent Use of *Sudorificks* and *Catharicks*, although he had been afflicted with the Distemper, for the space of twelve Years, and unsuccessfully treated with *Mercurials*. If then so much has been done by common *Sudorifick* Decoctions, and repeated *urges*, what may not be expected from the more powerful Influences

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of *Metals* and *Minerals*, whose essential Property more readily conveys them into the minutest Channels? By the essential Property of *Metals* and *Minerals*, I mean, that absolute *Gravity* in common to them all, and whose Difference consists only in the Compactness of their Component Parts, from whence, one is said to be Specifically heavier or lighter than the other. As all *Minerals* and *Metals* have this Property of Gravitation from the Laws of Nature, it follows, that when they are mixed with a moving Fluid, the *Momentum* or Quantity of Motion of that Fluid, will be increased, in Proportion to the Specifick Gravity of the *Metal* or *Mineral*; the *Momentum* or Quantity of Motion being, by the Laws of *Mechanicks*, as the Velocity of the moving Body multiplied into the Quantity of Matter. From this single Property



it will not be difficult to explain the wonderful Effects of Mineral Substances in *Animal Oeconomy*, and the Changes, both Fluids and Solids must undergo, by the force of their Percussions. It is to this Power chiefly, that the Learned Dr. *Friend*, in his *Emmenologia*, attributes the Deobstruction of the *Uterine Vessels*; and the Ingenious Dr. *Pitcairn* is so far of this Opinion, that he says, if Gold was reduced into Parts so small, which he thinks may be done, that, regard being had to its Bulk, its Surface was so extended, as to be equal to Water in Weight, and fit to Swim in the Blood, that this Distemper would be sooner and more safely cured by Gold than by *Mercury*. The Effect of heavy Bodies upon the Fluids, being therefore Proportionate to their Gravities, that of *Mercury* will be more Efficacious than any other lighter than it self,

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and

and the Facility of its Division, is one great Reason, of its being so much in Use. It is true indeed, that some Preparations of this Mineral, given in a small Quantity, will raise a Salivation; the *Turpethum Minerale*, and some others, produce this sudden Effect, which proceeds only from their Combination with the Saline *Spicula* of the *Menstruum*, they have been dissolved in, whose Operation is assisted by the Gravity of the *Mercury*, as that of the *Mercury* is Reciprocally by the Salts of the *Menstruum*. For when this *Mineral* is externally used in *Unguents*, a larger Quantity is necessary, for want of that Assistance, the Smoothness of its Globules rendring it not so apt to incide and force its way through, or adhere to the Sides of the pervious Canals: Neither are a few Particles sufficient to dilate the Mouths of the excretory *Ducts*,  
there



there must be a continual Accumulation of those Particles, from the Time of their first Circulating in the Blood, 'till those *Ducts* become so extended, and their *Orifices* so enlarged, as to give room for a free Evacuation of their Contents. And the Reason why these Glands are more generally affected than any others, (which does not always happen) is partly owing to the Natural Tenacity of the *Saliva*, being apt to embrace and retain those Particles, and their easy Admission, from the Number and Wideness of the *Salival Ducts*.

The Safety of promoting a *Salivation*, by Mercury externally applied in *Unguents*, as is the Practice of some, or by the Internal Method practised by others, has been long contested. The Advocates for Unc-tion, defend the Success of that Practice, by computing the Benefit  
and

and Efficacy of the Remedy, from the largeness of the Quantity received this way more than the other. Their Antagonists found their Objection to this Practice, upon the Observation of the Mercurial Globuli being found in the Interstices of *Carious* Bones, when Externally apply'd, and imagine this to be the Principal Cause of the *Caries* ; and therefore as strenuously urge, that the Mischiefs, arising from this Method, will be always Proportionate to the Quantity received. But although, both these Methods are, and may be successfully Practised in the Cure of this Disease ; yet when we come to consider the Disproportion of the Quantity used by *Unc-tion*, and that given Internally, it must be allowed, that the Violence of the Percussions against any Resistance the *Mercury* meets with, which is always greatest in the smallest



est Channels, will be in a *Ratio* of the Increase of the *Momentum* of the Circulating Fluid. And therefore where the Texture of the Bones, once begin to be loosened by the Distemper, the violent Shocks, occasioned by the additional Gravity of this *Mineral*, may so seperate and shake asunder the Contiguity of their Fibres, as it passes through the Blood-Vessels, that by their Elasticity they cannot be restored to the same Order; and consequently may render that Node Incurable without Manual Operation, which was not so before; and the nearness of the approach, added to the Difficulty and Slowness of the Motion of the *Mercurial* Globuli through those Vessels, may often occasion them to run into such Cohesions, as may make them visible to the Eye when once united.

Hence

Hence I think its very plain, that the Augmentation of the *Caries* is not so much owing to any other Property, as to that arising from the Gravity of the *Mercury*; for was it so, it would sooner rend the Fibres of the Bones asunder, when armed with the sharp Points of a piercing *Menstruum*, than it possibly could by the natural Smoothness of its Surface when *Crude*; and I am apt to believe, that could this Remedy be given in the same Quantity Internally, this Mischief would more readily ensue. From hence it may be concluded, that a Salivation raised by *Uñction*, where there is no *Caries* of the Bones, is as safe as the other, and the *Mercury* exhibited this way, is as capable of removing any Obstruction in those Vessels, whose sides being gently compressed, can yeild to the Force of its Strokes, without the Assistance of those *Spi-*  
*cula,*



*cula*, it is joined with in its various Dissolutions. Thus far I have endeavoured to demonstrate that the Action of this Mineral consists only in the Gravity of its Particles, when unassisted by *Chymical* Management; and that even then, it is the Principal Cause of the Effect produced. But let this Mineral be admitted into the Mass of Blood, in what Form soever, it must certainly so Commi-*nute* the *Viscid* Cohesion of its Parts, as to dispose and make it more fit for Secretion through the most *Capillary Ducts*; and that not only, by dividing the Particles of the Blood into smaller Parts, but by dilating the *Ducts* themselves. For it is impossible it should be mixed with the Blood, as it Increases the Quantity of its Motion, without producing Effects answerable to that Increase; which according to the Learned Dr. *Cheyne*, in

his *Theory Fevers*, is so very Considerable, that he computes more may be done toward the Deobstruction of the Vessels in one Day, by the Assistance of *Mercury*, than by the Blood itself, without that Assistance, in the space of three Years. If its Power be so extensive as this Computation allows, what wonderful Alterations must succeed its Admission into the Mass of Blood, in a little Time ; and what Encouragement is not given to its Use, in all Diseases, where the *Viscid* state of the Blood disposes the Vessels to Obstruction ?

Since then the general Method, and most successful Practice, used by Antient and Modern Physicians in the Cure of this Disease, has been by Evacuations ; and that *Sudorificks* and *Catharticks* have answered without the hazard of *Salivation*, (although the latter has commonly



monly been most Effectual) it seems reasonable, from the foregoing Computation of *Sanctorius*, to imagine that this end must be more readily obtained, by promoting the most copious and most necessary Evacuation in *Animal Oeconomy*; which, according to his *Statical Observations*, arises from *insensible Perspiration*. It must indeed be allowed, that the *Excretory Ducts*, necessary for the Discharge of the Perspirable Matter, being infinitely small, this Excretion is most liable to be impeded by a *Viscid* state of the Fluids: For as the Matter to be *perspired* must be of a Magnitude adapted to the *Diameters* of the Secreting Vessels; therefore the least Change or Alteration in the Blood, increasing the Magnitude of the Particles to be Secerned, will sooner obstruct this Evacuation than any other. The Truth of this appears

from the Urine of those who have taken Cold ; for the Quantity shall not only be increased at the *Crisis* of the Distemper, but shall deposite a *mucons* or slimy Sediment: the Interruption of the Matter to be perspired through the Cuticular Pores, forcing it to seek a Passage through some other *Emunctory*, the Diameters of whose *Ducts* are capable of receiving it. But the Number of excretory Canals, designed for this Office, sufficiently counter-balance the smallness of their *Orifices*, as we may evidently discover, from the immense Disproportion of this, compared with any other Evacuation. Hence it appears, that this Disease cannot be so effectually and safely subdued, by increasing any other Secretion, as it may by *insensible Perspiration*.

For farther Instance of this Truth, let us only consider the Operation of  
such



such Medicines as have been successful in this Distemper, as *Sudorificks* and *Catharticks*, and we shall find their Effects chiefly to consist in that particular Disposition, or active Property of attenuating and dividing the *Fluids*, 'till they are rendred fit for Secretion, through the *Cuticular* or *Intestinal Glands* ; And the same attenuating Property must contribute in great measure to *insensible Perspiration* ; it being impossible, from the general Influence of such Medicines upon the whole Mass of Blood, but that some, nay, an infinite Number of Particles, should be so far comminuted, as insensibly to fly off by a more obscure Evacuation. It will not be difficult, I think, after mature Consideration of this Doctrine, to conceive the certainty of Curing this Distemper in our own Climate by *insensible Perspiration* : the extensive Influence of *Minerals*, by the  
Law

Law of *Gravitation*, the Power of *Attenuants*, and a strict Observance of the *Ratio* in *Animal Secretion*: will naturally lead those, whose Genius and Education has qualified them for the Cure of Diseases; and to such I shall leave the Choice of those Medicines, which, in the Course of their Studies and Practice, they shall judge most conducive to answer this End.



### CHAP. III.

*Of the Benefit of Bathing, in the Cure of this Disease.*

**M**Y present Design being only to treat of *Bathing*, as far as it relates to the Cure of the *Lues Venerea*. I shall omit making any Observations on the *Cold-Bath*, or of those naturally *Hot Mineral Waters*,  
fo



so much in Esteem against other Diseases. 'Tis manifest, from the preceding Part of this Discourse, that the Blood infected by this Distemper is apt to occasion (altho' not an entire Stagnation) a *Lentor* of the Matter to be secerned thro' the Pores of the *Cuticula* : The Properties also of such Medicines as divide the Cohesion of its vitiated Particles, have been explained ; but if we consider the common Effect, of a moderate Heat upon all Fluids in General, by which they are rarefied ; And the wonderful Property of Water in gradually Insinuating itself into the Minuteest Pores of *Animal* Bodies, and relaxing the most solid Parts, it may be easily conceived, how readily Bathing in warm Water affords Assistance in the Cure of the *Lues*, and other cutaneous Eruptions. And the Use of Bathing in this Disease is so general,

ral, that the painful *Symptoms* of a *Gonorrhæa*, are sooner mitigated by this Practice, than any other I have experienced in the Cure. For by this Means, the Tension of the Fibres of the Part affected is lessen'd, and room given, for the infecting Matter to be partly thrown off by *insensible Perspiration*. And I am apt to believe, if those Gentlemen, who frequently expose themselves, to the Danger of Infection, from common Prostitutes, should follow this Method soon after Coition, it would frequently prevent the Consequences attending such Debauches.

In the Eastern and more Southern Parts of the World, where *Purification* is still observed, the *Symptoms* of this Disease are more favourable; which may be owing in great Measure, not only to the natural Warmth of the Climate, but to the

the



the common Custom of Bathing practised in those Countries. And I think it seems very plain from *Holy Writ*, that the *Mosaic* Institution of Bathing, was made use of, to prevent and heal those Sores of the Flesh, and the Cutaneous Eruptions with which the *Jewish* Nation was so much afflicted. Bathing therefore, considered abstractedly from the Use of any other Means, may be vastly Beneficial in the Cure of this Disease : So far at least, as it assists the *Excretory Ducts* of the *Cutis*, in discharging their Contents, as well as in washing off any Filth, which may Clog the Pores of the *Cuticula*. But when an universal Eruption spreads itself upon the Surface of the Skin, and the Miliary Glands are stuffed with a Matter so *Viscid*, that it cannot be emitted through its proper *Ducts*, and we are obliged to have recourse to ponderous

and active Medicines to Commi-  
 nute and Attenuate those Particles thus  
 firmly united ; in this Case Bathing  
 affords some Assistance, by relaxing  
 the Fibres themselves, and diluting  
 the Matter thus united ; whence it  
 follows that those Canals will readily  
 dilate, and what they contain be more  
 capable of Expansion, and conse-  
 quently more easily propelled by the  
 Force of the succeeding Fluid. I  
 would not be understood to mean a  
 Relaxation so considerable, as would  
 Debilitate the natural *Elasticity* of the  
 Fibres, and deprive them of the Pow-  
 er of Contraction ; but such only as  
 would remove the *Crispation* brought  
 upon them, by the Retention of the  
*Morbifick* Matter : The Remedy  
 otherwise would be worse than the  
 Disease, and what is here offered to  
 lessen the *Viscidit*y would increase it,  
 by depriving the Fibres of an *Elasti-*  
*cit*y necessary to squeeze out the Con-  
 tents.



cents. There is hardly any one Symptom in this Distemper, whether Glandular Obstructions, or even Carious Bones, but may be relieved by *Bathing*, the Perspiration promoted thereby, making so general a Revulsion from the Parts affected, that the Violence of Nocturnal Pains, which are sometimes almost intolérable, shall be considerably appeased. I thought proper to subjoin this short Account of *Bathing*, as it is agreeable to the System in general, and has no small share in the Cure of this Disease. This I am convinced of from my own private Practice, and could wish it, for the Benefit of my Fellow-Creatures, more universally extended.

*F I N I S.*





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